

Title (en)  
OPTICAL HETERODYNE DETECTION IN OPTICAL CAVITY RINGDOWN SPECTROSCOPY

Title (de)  
OPTISCHE HETERODYNDETEKTION BEI DER OPTISCHEN CAVITY-RINGDOWN-SPEKTROSKOPIE

Title (fr)  
DETECTION OPTIQUE HETERODYNE EN SPECTROSCOPIE OPTIQUE DE RINGDOWN DE CAVITE

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Application  
**EP 01951206 A 20010712**

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Abstract (en)  
[origin: WO0204903A1] The present invention relates to optical heterodyne detection cavity ringdown spectroscopy. In one aspect the invention relates to an optical system (1) comprising a ringdown cavity cell (3) defining a resonant optical cavity, means for directing coherent light selected from the group consisting of continuous or quasi-continuous light into said optical cavity (8, 9, 10, 11 and 12), means for altering the resonant optical cavity so as to generate a frequency shift of the coherent light in the optical cavity (6, 7), means for coupling said coherent light into the optical cavity and means for decoupling the frequency shifted coherent light out of said optical cavity (5, 6, 7), means for optically combining (10, 11, 12) said decoupled frequency shifted coherent light with another portion of coherent light not in optical communication with the optical cavity and means for optical heterodyne detection (13) of the intensity of said combined light. A method for optical detection is also described as well as methods and apparatus for detecting a parameter of a sample.

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